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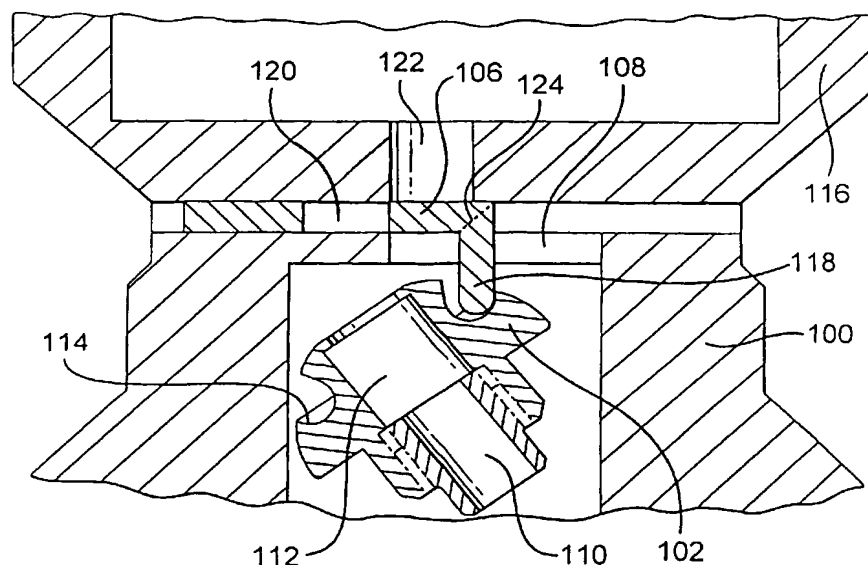
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[Continued on next page]

(54) Title: SAFETY SYSTEM FOR THE IGNITION CHAIN OF A PROJECTILE FUZE



(57) Abstract: A small arms projectile for a small arms weapon, which projectile comprises a warhead (116) having an explosive charge (not shown), an initiator (102), and a firing pin (not shown). The initiator has safe and armed conditions and is capable of detonating the explosive charge of the warhead when the initiator is in the armed condition and impacted with sufficient force by the firing pin. The projectile further comprises shielding means (106) positioned between the initiator and the explosive charge of the warhead, which shielding means is slidable from a safety position in which the shielding means shields the explosive charge of the warhead from the initiator, to an armed position in which the initiator is capable of detonating the explosive charge of the warhead. The shielding means is slidable from the safe to the armed position in response to the initiator moving from the safe to the armed condition.



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B. FIELDS SEARCHED

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Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	WO 99/51934 A (ALCULUMBRE MICHAEL ; SPECIAL CARTRIDGE COMPANY LIMI (GB); SHAPHYR SHAL) 14 October 1999 (1999-10-14) page 18, paragraph 2 - page 19, paragraph 1; figures	1
A	US 5 670 736 A (CHEMIERE PATRICE ET AL) 23 September 1997 (1997-09-23) column 3, line 63 - column 5, line 17; figures	1
A	EP 0 566 469 A (MANURHIN DEFENSE) 20 October 1993 (1993-10-20) column 6, line 2 - column 7, line 30, paragraphs	1
A	CH 648 655 A (INVENTA AG) 29 March 1985 (1985-03-29) the whole document	1

☐ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

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Information on patent family members

International Application No
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Patent document cited in search report		Publication date	Patent family member(s)	Publication date
WO 9951934	A	14-10-1999	AU 3339599 A	25-10-1999
			BR 9909431 A	11-09-2001
			CA 2326432 A1	14-10-1999
			EP 1068484 A1	17-01-2001
			WO 9951934 A1	14-10-1999
			US 2003024427 A1	06-02-2003
			ZA 200005354 A	05-08-2002
US 5670736	A	23-09-1997	FR 2737293 A1	31-01-1997
			DE 69609255 D1	17-08-2000
			DE 69609255 T2	04-01-2001
			EP 0756151 A1	29-01-1997
EP 0566469	A	20-10-1993	FR 2689972 A1	15-10-1993
			AT 145280 T	15-11-1996
			DE 69305907 D1	19-12-1996
			DE 69305907 T2	06-03-1997
			EP 0566469 A1	20-10-1993
			ES 2095594 T3	16-02-1997
			GR 3022520 T3	31-05-1997
CH 648655	A	29-03-1985	CH 648655 A5	29-03-1985